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10/784,851

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Rudy Van den Bergh

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7590 02/20/2007  
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EXAMINER

LEE, SHUN K

ART UNIT

PAPER NUMBER

2884

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/784,851

Applicant(s)

BERGH ET AL.

Examiner

Shun Lee

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2006 and 16 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 19 December 2006 and 16 January 2007 have been entered.

### ***Drawings***

2. The drawings were received on 16 January 2007. These drawings are acceptable.

### ***Specification***

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

4. Claims 1 and 33 are objected to because of the following informalities:
- (a) in claim 1, "said silazane" on line 11 should probably be --silazane-- (since there is insufficient antecedent basis for this limitation in the claim); and
  - (b) in claim 33, "at least one of said first transparent organic film and said second transparent organic film is a poly-paraxylylene film" on lines 14-16 should probably be --said first

transparent organic film is a poly-paraxylylene film-- (since "said second transparent film is a polymeric film containing mixtures of said silazane or siloxazane polymers with compatible film-forming polymers" was recited on lines 8-13 of claim 1).

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 5, 9, 13, 17, 21, and 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873).

In regard to claims 1, 5, 9, 13, 17, 21, and 47, Kano *et al.* disclose (Figs. 1 and 2) a radiation image sensor comprising:

- (a) a stimuable phosphor screen (23) comprising:
  - (a1) a radiation-transparent substrate (11) such as plastic films, glass, or aluminum sheets (column 4, lines 51-61);
  - (a2) a stimuable phosphor layer (12) formed on said substrate (11), wherein said storage phosphor is a binderless needle-shaped, vapor-deposited CsBr:Eu phosphor (column 6, line 62 to column 7, line 11; column 8, line 52 to column 9, line 18);
  - (a3) a first transparent organic film (13a) covering said stimuable phosphor layer (12); and
  - (a4) a second transparent film (13b) formed on said first transparent organic film (13a), said second transparent film (13b) is a polymeric film (e.g., "silicone resins"; column 9, line 46 to column 11, line 50) containing compatible film-forming polymers, wherein said compatible film-forming polymers is urethane acrylate (i.e., "urethaneacrylate"; column 10, line 21); and
- (b) an imaging device (25, 26) disposed in order to face said stimuable phosphor screen (23).

The screen of Kano *et al.* lacks an explicit description that the polymeric film contains mixtures of silazane or siloxazane polymers. However, Kano *et al.* also disclose (column 10, lines 29-32) that "... a coating liquid containing at least one of radiation curing type resin and thermosetting resin ... As the radiation curing type resin mentioned above ... there may be exemplified the followings: ... urethane modified unsaturated polyester, acrylic urethane modified unsaturated polyester, and a liquid unsaturated polyester having an acrylic group at a terminal ... siliconeacrylate and

Art Unit: 2884

urethaneacrylate ... As the above-mentioned thermosetting resin according to this invention, there may be exemplified ... polyurethane resins, silicone resins, ... ". Since Kano *et al.* do not disclose and/or require a specific resin, one having ordinary skill in the art at the time of the invention would reasonably interpret the unspecified resin of Kano *et al.* as any one of the known conventional resins which would not require further description. Further, Benz *et al.* teach a polymeric film containing mixtures of silazane (*i.e.*, "silazane"; column 3, lines 12-32) or siloxazane (*i.e.*, "alkoxy group containing ... silazane"; column 3, lines 12-32), in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known polymer (*e.g.*, silazane, siloxazane, compatible film-forming polymers, or mixtures thereof) for the unspecified polymer in the screen of Kano *et al.*, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy.

In regard to claims **45** and **46**, Kano *et al.* disclose (Figs. 1 and 2) a radiation image sensor comprising:

(a) a stimuable phosphor screen (23) comprising:

(a1) a radiation-transparent substrate (11) such as plastic films, glass, or aluminum sheets (column 4, lines 51-61);

(a2) a stimuable phosphor layer (12) formed on said substrate (11), wherein said storage phosphor is a binderless needle-shaped, vapor-deposited CsBr:Eu phosphor (column 6, line 62 to column 7, line 11; column 8, line 52 to column 9, line 18);

- (a3) a first transparent organic film (13a) covering said stimuable phosphor layer (12); and
- (a4) a second transparent film (13b) formed on said first transparent organic film (13a), said second transparent film (13b) is a polymeric film (e.g., "silicone resins"; column 9, line 46 to column 11, line 50) containing compatible film-forming polymers, wherein said compatible film-forming polymers is urethane acrylate (*i.e.*, "urethaneacrylate"; column 10, line 21); and
- (b) an imaging device (25, 26) disposed in order to face said stimuable phosphor screen (23).

The screen of Kano *et al.* lacks an explicit description that the polymeric film contains siloxazane polymers. However, Kano *et al.* also disclose (column 10, lines 29-32) that "... a coating liquid containing at least one of radiation curing type resin and thermosetting resin ... As the radiation curing type resin mentioned above ... there may be exemplified the followings: ... urethane modified unsaturated polyester, acrylic urethane modified unsaturated polyester, and a liquid unsaturated polyester having an acrylic group at a terminal ... siliconeacrylate and urethaneacrylate ... As the above-mentioned thermosetting resin according to this invention, there may be exemplified ... polyurethane resins, silicone resins, ... ". Since Kano *et al.* do not disclose and/or require a specific resin, one having ordinary skill in the art at the time of the invention would reasonably interpret the unspecified resin of Kano *et al.* as any one of the known conventional resins which would not require further description. Further, Benz *et al.* teach a polymeric film containing siloxazane (*i.e.*, "alkoxy group containing ... silazane"; column 3, lines 12-32), in order to obtain a protective layer having desired properties such as good abrasion and

scratching resistancy. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known polymer (e.g., siloxazane) for the unspecified polymer in the screen of Kano *et al.*, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy.

8. Claims 2, 6, 10, 14, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) as applied to claim 1 above, and further in view of Arakawa *et al.* (US 4,863,826).

In regard to claim 2 which is dependent on claim 1, the modified screen of Kano *et al.* lacks an explicit description that the subbing layer comprises a transparent organic film. However, Kano *et al.* also disclose (column 5, lines 4-7) a subbing layer between said substrate and said stimuable phosphor layer. Since Kano *et al.* do not disclose and/or require a specific subbing layer, one having ordinary skill in the art at the time of the invention would reasonably interpret the unspecified subbing layer of Kano *et al.* as any one of the known conventional subbing layers which would not require further description. Further, Arakawa *et al.* teach (column 3, line 56 to column 4, line 3) that a subbing layer comprises a polymer material with optional additional light reflecting or light absorbing material, in order to obtain a organic film having desired optical properties which also enhances bonding. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known subbing layer (e.g., a transparent organic film) for the unspecified subbing layer in the modified screen of Kano *et al.*, in order to obtain a layer which enhances bonding.



In regard to claim **6** which is dependent on claim 2, Kano *et al.* is applied as in claim 5 above.

In regard to claim **10** (which is dependent on claim 2) and claim **14** (which is dependent on claim 6), Kano *et al.* is applied as in claim 9 above.

In regard to claim **18** (which is dependent on claim 10) and claim **22** (which is dependent on claim 14), Kano *et al.* is applied as in claim 17 above.

9. Claims 3, 7, 11, 15, 19, 23, 33, 35, 37, 39, 41, 43, 48, 50, 52, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) as applied to claim 1 above, and further in view of Homme (US 2003/0160185).

In regard to claim **3** which is dependent on claim 1, the modified screen of Kano *et al.* lacks an explicit description that the polymeric film comprises a poly-paraxylylene film. However, Kano *et al.* also disclose (column 9, line 46 to column 11, line 50) that the first transparent organic film (13a) is a polymeric film. Since Kano *et al.* do not disclose and/or require a specific polymeric film, one having ordinary skill in the art at the time of the invention would reasonably interpret the unspecified polymeric film of Kano *et al.* as any one of the known conventional polymeric films which would not require further description. Further, Homme teaches (paragraph 33) that a protective layer comprises polyparaxylylene. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known polymer (e.g., polyparaxylylene) for the unspecified polymer of the protective layer in the modified screen of Kano *et al.*

In regard to claim **7** which is dependent on claim 3, Kano *et al.* is applied as in claim 5 above.

In regard to claim **11** (which is dependent on claim 3) and claim **15** (which is dependent on claim 7), Kano *et al.* is applied as in claim 9 above.

In regard to claim **19** (which is dependent on claim 11) and claim **23** (which is dependent on claim 15), Kano *et al.* is applied as in claim 17 above.

In regard to claims **33, 37, 41, 48, and 52**, Kano *et al.* disclose (Figs. 1 and 2) a method of preparing a stimuable phosphor screen or panel, said method comprising the steps of:

- (a) forming a stimuable phosphor layer (12) on a radiation-transparent substrate (11);
- (b) forming a first transparent organic film (13a) covering said needle-shaped stimuable phosphor layer;
- (c) forming a second transparent film (13b) containing compatible film-forming polymers, wherein said compatible film-forming polymers is urethane acrylate (*i.e.*, "urethaneacrylate"; column 10, line 21) on said first transparent organic film; and
- (d) forming a third transparent film layer (column 4, lines 1-6), wherein said third transparent film layer is a polymeric film covering said second transparent film layer.

The method of Kano *et al.* lacks an explicit description that the second and third transparent films contain mixtures of silazane or siloxazane polymers. However, Kano *et al.* also disclose (column 10, lines 29-32) that " ... a coating liquid containing at least

Art Unit: 2884

one of radiation curing type resin and thermosetting resin ... As the radiation curing type resin mentioned above ... there may be exemplified the followings: ... urethane modified unsaturated polyester, acrylic urethane modified unsaturated polyester, and a liquid unsaturated polyester having an acrylic group at a terminal ... siliconeacrylate and urethaneacrylate ... As the above-mentioned thermosetting resin according to this invention, there may be exemplified ... polyurethane resins, silicone resins, ... ". Since Kano *et al.* do not disclose and/or require a specific resin, one having ordinary skill in the art at the time of the invention would reasonably interpret the unspecified resin of Kano *et al.* as any one of the known conventional resins which would not require further description. Further, Benz *et al.* teach a polymeric film containing siloxazane (*i.e.*, "alkoxy group containing ... silazane"; column 3, lines 12-32), in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy. In addition, Homme teaches (paragraph 33) that a protective layer comprises polyparaxylylene. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide known polymer (*e.g.*, polyparaxylylene, silazane, and/or siloxazane) for the unspecified polymer in the method of Kano *et al.*, in order to obtain a protective layer having desired properties such as good abrasion and scratching resistancy.

In regard to claims 35, 39, 43, 50, and 54, Kano *et al.* in view of Benz *et al.* is applied as in claims 33, 37, 41, 48, and 52 above and Homme is applied as in claim 3 above.

10. Claims 4, 8, 12, 16, 20, 24, 36, 40, 44, 51, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of

Art Unit: 2884

Benz *et al.* (US 4,830,873) and Arakawa *et al.* (US 4,863,826) as applied to claim 2 above, and further in view of Homme (US 2003/0160185).

In regard to claim **4** which is dependent on claim 2, Homme is applied as in claim 3 above.

In regard to claim **8** which is dependent on claim 4, Kano *et al.* is applied as in claim 5 above.

In regard to claim **12** which is dependent on claim 4, Kano *et al.* is applied as in claim 9 above.

In regard to claim **16** which is dependent on claim 8, Kano *et al.* is applied as in claim 9 above.

In regard to claim **20** which is dependent on claim 12, Kano *et al.* is applied as in claim 17 above.

In regard to claim **24** which is dependent on claim 16, Kano *et al.* is applied as in claim 17 above.

In regard to claims **36, 40, 44, 51, and 55**, Kano *et al.* in view of Benz *et al.* is applied as in claims 33, 37, 41, 48, and 52 above and Homme is applied as in claim 3 above.

11. Claims 25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) as applied to claims 17 and 21 above, and further in view of Karellas (US 5,864,146).

In regard to claim **25** (which is dependent on claim 17) and claim **29** (which is dependent on claim 21), the modified sensor of Kano *et al.* lacks an explicit description

Art Unit: 2884

that said imaging device is a CCD. However, Kano *et al.* also disclose (column 13, lines 6-14) to provide a photoelectric converting device 25 and an image producing device 26 to reproduce an image. Since Kano *et al.* do not disclose and/or require a specific imaging device, one having ordinary skill in the art at the time of the invention would reasonably interpret the unspecified imaging device of Kano *et al.* as any one of the known conventional imaging devices which would not require further description. Further, Karellas teaches (column 33, lines 9-23) to provide a CCD as the imaging device, in order to obtain more accurate resolution. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a known conventional imaging device (e.g., a CCD) as the unspecified imaging device in the modified sensor of Kano *et al.*, in order to obtain more accurate resolution.

12. Claims 26 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) and Arakawa *et al.* (US 4,863,826) as applied to claims 18 and 22 above, and further in view of Karellas (US 5,864,146).

In regard to claim 26 (which is dependent on claim 18) and claim 30 (which is dependent on claim 22), Karellas is applied as in claim 25 above.

13. Claims 27 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) and Homme (US 2003/0160185) as applied to claims 19 and 23 above, and further in view of Karellas (US 5,864,146).

In regard to claim **27** (which is dependent on claim 19) and claim **31** (which is dependent on claim 23), Karellas is applied as in claim 25 above.

14. Claims 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873), Arakawa *et al.* (US 4,863,826), and Homme (US 2003/0160185) as applied to claims 20 and 24 above, and further in view of Karellas (US 5,864,146).

In regard to claim **28** which is dependent on claim 20, Karellas is applied as in claim 25 above.

In regard to claim **32** which is dependent on claim 24, Karellas is applied as in claim 25 above.

15. Claims 34, 38, 42, 49, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kano *et al.* (US 4,741,993) in view of Benz *et al.* (US 4,830,873) and Arakawa *et al.* (US 4,863,826) as applied to claim 2 above, and further in view of Homme (US 2003/0160185).

In regard to claims **34, 38, 42, 49, and 53**, Kano *et al.* in view of Benz *et al.* is applied as in claims 33, 37, 41, 48, and 52 above and Homme is applied as in claim 3 above.

### ***Response to Arguments***

16. Applicant's arguments filed 16 January 2007 have been fully considered but they are not persuasive.

Applicant argues (paragraphs on pg. 18 of remarks filed 16 January 2007) that Benz *et al.* fail to recite a siloxazane type polymer as clearly illustrated in the infrared

Art Unit: 2884

spectrum. Examiner respectfully disagrees. First, it is noted that the infrared spectrum (see Figs. 2-5 of Benz *et al.*) cited by applicant are directed to examples of hexamethyldisiloxane (*i.e.*, HMDS) which are described in columns 4-6 of Benz *et al.* Further, a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments (MPEP § 2123). Thus figures of infrared hexamethyldisiloxane spectra would not justify a conclusion that there is no formation of bonds (*i.e.*, O-Si-N bond) when silazane is heated in the presence of oxygen. In addition, the infrared hexamethyldisiloxane spectra do not justify a conclusion that the reference fail to recite siloxazane. On the contrary, Benz *et al.* state (column 3, lines 29-32) that "In addition to the preferred used hexamethyl disiloxane other methyl-, -vinyl-, phenyl-, or alkoxy group containing siloxane, silazane or silane for forming the protective layer". Thus Benz *et al.* expressly teach silazane as an equivalent of the preferred hexamethyldisiloxane for forming the protective layer. It is important to recognize that Benz *et al.* also expressly teach an alkoxy group containing silazane. It should be noted that an alkoxy group is R-O- wherein O is oxygen and R is an alkyl group (*e.g.*, see Eq. 9 on pg. 771 in Encyclopedia Of Polymer Science and Technology Vol. 11). Thus an alkoxy group containing silazane as expressly taught by Benz *et al.* is a siloxazane (*e.g.*, see US Patent 5,010,158 column 1, lines 15-20 which states that "The terms polysilazanes, organopolysilazanes, silazane polymers or carbosilazane resins, as they are encountered in the literature, are generally employed to denote solid or more or less viscous liquid polymeric substances containing a plurality of -NR-Si- units. The term polysiloxazane is preferably employed when the macromolecular chain also contains oxygen"). That is, Benz *et al.* teach a

siloxazane even before heating in the presence of oxygen. Therefore, Benz *et al.* teach or suggest that one or more silazane or siloxazane are equivalents to the preferred hexamethyldisiloxane for forming the protective layer.

Further, amended independent claim 1 recites "said second transparent film is a polymeric film containing mixtures of said silazane or siloxazane polymers with compatible film-forming polymers" whereas amended independent claim 45 recites "said second transparent film is a polymeric film containing siloxazane polymers and a mixture thereof with compatible film-forming polymer". It should be noted that one of the key phrases in claim 1 is "or". Thus amended independent claim 1 requires either silazane or siloxazane. Therefore, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, said second transparent film is a polymeric film containing mixtures of siloxazane polymers) are not recited in amended independent claim 1. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues (first paragraph on pg. 19 of remarks filed 16 January 2007) that Benz *et al.* fail to recite any addition of a film forming polymer in the protective layer. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Kano *et al.* state (column 10, lines 29-32) that "... a coating liquid



Art Unit: 2884

containing at least one of radiation curing type resin and thermosetting resin ... As the radiation curing type resin mentioned above ... there may be exemplified the followings: ... urethane modified unsaturated polyester, acrylic urethane modified unsaturated polyester, and a liquid unsaturated polyester having an acrylic group at a terminal ... siliconeacrylate and urethaneacrylate ... As the above-mentioned thermosetting resin according to this invention, there may be exemplified ... polyurethane resins, silicone resins, ... ". Thus Kano *et al.* expressly teach a protective layer comprising urethane acrylate (*i.e.*, a compatible film-forming polymer).

Applicant appears to be arguing (second paragraph on pg. 19 to last paragraph on pg. 27 of remarks filed 16 January 2007) that claims are allowable based on the same arguments previously presented. Examiner respectfully disagrees for the reasons discussed above.

### **Conclusion**

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Butts *et al.* "Silicones" in: Encyclopedia Of Polymer Science and Technology 2003 (vol. 11, pp. 765-841) state that "Silicones are a class of polymers having the formula  $(R_mSi(O)_{4-m/2})_n$ , where  $m = 1-3$  and  $n \geq 2$ . The most common are the polydimethylsiloxanes (PDMS)".

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (571) 272-2439. The examiner can normally be reached on Monday-Thursday.

Art Unit: 2884

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SL

  
CONSTANTINE HANNAHEER  
PRIMARY EXAMINER